WHAT IS CLAIMED IS:

1. A transformed plant cell comprising a recombinant nucleic acid that encodes a heterologous C-repeat/dehydration-responsive element-binding factor (CBF), wherein the cell is naturally chilling-sensitive and expression of CBF increases tolerance of the cell to chilling, oxidative stress, water-deficit, or salt.

2. The transformed plant cell of claim 1, wherein the factor is Arabidopsis CBF1.

3. The transformed plant cell of claim 2, wherein the expression of the factor is driven by a stress-inducible promoter.

4. The transformed plant cell of claim 3, wherein the transformed plant cell is a dicot plant cell.

5. The transformed plant cell of claim 4, wherein the transformed plant cell is a tomato cell.

6. The transformed plant cell of claim 2, wherein the transformed plant cell is a dicot plant cell.

7. The transformed plant cell of claim 6, wherein the transformed plant cell is a tomato cell.

8. The transformed plant cell of claim 1, wherein the expression of the factor is driven by a stress-inducible promoter.

9. The transformed plant cell of claim 8, wherein the transformed plant cell is a dicot plant cell.

10. The transformed plant cell of claim 9, wherein the transformed plant cell is a tomato cell.

11. The transformed plant cell of claim 1, wherein the transformed plant cell is a dicot plant cell.

12. The transformed plant cell of claim 11, wherein the transformed plant cell is a tomato cell.

13. A transgenic plant comprising a recombinant nucleic acid that encodes a heterologous C-repeat/dehydration-responsive element-binding factor (CBF), wherein the plant is naturally chilling-sensitive and expression of the factor increases tolerance of the plant to chilling, oxidative stress, water-deficit, or salt.

14. The transgenic plant of claim 13, wherein the factor is Arabidopsis CBF1.

15. The transgenic plant of claim 14, wherein the expression of the factor is driven by a stress-inducible promoter.

16. The transgenic plant of claim 15, wherein the transgenic plant is a dicot plant.

17. The transgenic plant of claim 16, wherein the transgenic plant is tomato.

18. The transgenic plant of claim 14, wherein the transgenic plant is a dicot plant.

19. The transgenic plant of claim 18, wherein the transgenic plant is tomato.

20. The transgenic plant of claim 13, wherein the expression of the factor is driven by a stress-inducible promoter.

21. The transgenic plant of claim 20, wherein the transgenic plant is a dicot plant.

22. The transgenic plant of claim 21, wherein the transgenic plant is tomato.

23. The transgenic plant of claim 13, wherein the transgenic plant is a dicot plant.

24. The transgenic plant of claim 23, wherein the transgenic plant is tomato.

25. A method of producing a transformed plant cell, the method comprising:

introducing into a plant cell a recombinant nucleic acid encoding a heterologous C-repeat/dehydration-responsive element-binding factor (CBF), and

expressing the factor in the cell,

wherein the cell is naturally chilling-sensitive and expression of the factor increases tolerance of the cell to chilling, oxidative stress, water-deficit, or salt.

26. The method of claim 25, wherein the factor is Arabidopsis CBF1.

27. The method of claim 25, wherein the expression of the factor is driven by a stress-inducible promoter.

28. The method of claim 25, wherein the plant cell is a dicot plant cell.

29. The method of claim 28, wherein the plant cell is a tomato cell.

30. A method of producing a transgenic plant, the method comprising:

introducing into a plant cell a recombinant nucleic acid encoding a heterologous C-repeat/dehydration-responsive element-binding factor (CBF),

expressing the factor in the cell, and

cultivating the cell to generate a plant,

wherein the plant is naturally chilling-sensitive and expression of the factor increases tolerance of the plant to chilling, oxidative stress, water-deficit, or salt.

31. The method of claim 30, wherein the factor is Arabidopsis CBF1.

32. The method of claim 30, wherein the expression of the factor is driven by a stress-inducible promoter.

33. The method of claim 30, further comprising growing the plant in the presence of an exogenous gibberellic acid.

34. The method of claim 30, wherein the transgenic plant is a dicot plant.

35. The method of claim 34, wherein the transgenic plant is tomato.